Reported Emergency Department Avoidance, Use, and Experiences of Transgender Persons in Ontario, Canada: Results From a Respondent-Driven Sampling Survey

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Study objective: Transgender, transsexual, or transitioned (trans) people have reported avoiding medical care because of negative experiences or fear of such experiences. The extent of trans-specific negative emergency department (ED) experiences, and of ED avoidance, has not been documented.

Methods: The Trans PULSE Project conducted a survey of trans people in Ontario, Canada (n=433) in 2009 to 2010, using respondent-driven sampling, a tracked network-based method for studying hidden populations. Weighted frequencies and bootstrapped 95% confidence intervals (CIs) were estimated for the trans population in Ontario and for the subgroup (n=167) reporting ED use in their felt gender.

Results: Four hundred eight participants completed the ED experience items. Trans people were young (34% aged 16 to 24 years and only 10% >55 years); approximately half were female-to-male and half male-to-female. Medically supervised hormones were used by 37% (95% CI 30% to 46%), and 27% (95% CI 20% to 35%) had at least 1 transition-related surgery. Past-year ED need was reported by 33% (95% CI 26% to 40%) of trans Ontarians, though only 71% (95% CI 40% to 91%) of those with self-reported need indicated that they were able to obtain care. An estimated 21% (95% CI 14% to 25%) reported ever avoiding ED care because of a perception that their trans status would negatively affect such an encounter. Trans-specific negative ED experiences were reported by 52% (95% CI 34% to 72%) of users presenting in their felt gender.

Conclusion: This first exploratory analysis of ED avoidance, utilization, and experiences by trans persons documented ED avoidance and possible unmet need for emergency care among trans Ontarians. Additional research, including validation of measures, is needed. [Ann Emerg Med. 2014;63:713-720.]

Please see page 714 for the Editor's Capsule Summary of this article.

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SEE EDITORIAL, P. 721.

INTRODUCTION

Background

Trans people may identify as transgender, transsexual, or as men or women with a history of transitioning sex (Appendix 1). Though historically assumed to be a minute minority, a recent household probability sample of Massachusetts residents found that 0.5% of adults identified as transgender, broadly defined to include all who "experience a different gender identity from their sex at birth."[1] It is therefore likely that all emergency department (ED) providers have provided and will provide care for trans patients.

Trans people may be identified by ED providers because of incongruent sex markers on charts, visible gender variance, or anatomic differences from nontrans women and men. However, many others may not be readily recognized[2] either because they have not made changes to their appearance or because they have completed a social and medical gender transition and fully blend in their felt gender (also referred to as identified gender, core gender, chosen gender, or target gender). This lack of recognition is compounded by the limited visibility of trans health issues and trans patients in information (eg, medical education) and institutional (eg, medical record) systems.[3] Recent non–peer-reviewed literature reports from the United States suggest that trans people may avoid disclosure of gender identity or gender transition history because of fear of receiving poor care.[4,5] These reports document a range of experiences, including postponement of care, care refusal, harassment, and even assault in ED settings.[4,5]

Editor's Capsule Summary

What is already known on this topic

Very little is known about how transgender individuals view their emergency department (ED) experience.

What question this study addressed

Using a unique sampling strategy that helps find individuals in hidden populations, this survey asked transgender individuals in Ontario about their experiences in EDs.

What this study adds to our knowledge

In this 433-patient Canadian study, half of all transgender persons presenting in their felt gender reported negative experiences in EDs, and 21% stated that they had avoided ED visits because of this.

How this is relevant to clinical practice

Although this is a preliminary study, findings suggest that ED providers could benefit from training in care of transgender persons.

Importance

Physicians have identified numerous barriers to competent care of trans patients, noting that because of limited clinical experience and a lack of trans-specific medical education,[6] trans patients must often provide trans health care education to their physicians.[7] In a survey of physicians about attitudes and practices with adolescent patients, emergency physicians were less likely than other physicians (family practice, pediatric, internal medicine, obstetrics/gynecology, and psychiatric) to discuss sexual orientation or gender identity with patients while taking a sexual history, most commonly because they believed it was not significant.[8] Increased knowledge concerning the ED utilization patterns, experiences, and potential ED avoidance of trans persons could inform medical education curricula and affect physician attitudes and knowledge about the needs of trans patients.

Goals of This Investigation

To the best of our knowledge, no peer-reviewed research published to date has explored recent ED utilization patterns and experiences or ED avoidance among trans people. New methods have been developed for generating population estimates for hidden populations,[9,10] enabling us to estimate ED use and avoidance among trans Ontarians, which necessarily must be measured in community rather than clinical samples. This study seeks to describe self-reported past-year need for and ability to obtain ED services, as well as lifetime experiences of ED avoidance and trans-related discrimination among trans persons in Ontario.

MATERIALS AND METHODS

Selection of Participants

In 2009 to 2010, the Trans PULSE Project (Appendix 2) conducted a province-wide survey of 433 trans persons aged 16 years or older in Ontario, Canada, using respondent-driven sampling. Trans was defined broadly, and participants were not required to have begun or completed a social or medical transition. Respondent-driven sampling is a newer method of structured sampling through personal networks[10]; it has been shown to produce unbiased statistical point estimates for hidden populations when analytic methods are used that account for network biases such as homophily (the tendency to know, and therefore to recruit, similar individuals).[11] Participants were provided with linked coupons to recruit up to 3 additional participants for the subsequent wave. Recruitment networks were tracked to provide data on network structure (ie, who recruited whom), and data on participants' network sizes were collected.

The survey was completed online or on paper. Methods have been described in greater detail elsewhere.[12] Study methods and materials were approved by research ethics boards at The University of Western Ontario and Wilfrid Laurier University.

Measures specific to ED experiences are included as Appendix E1 (available online at http://www.annemergmed.com). ED use, need, and avoidance were assessed by participant self-report. Because validated measures of trans-specific ED use, need, and avoidance do not exist, survey items were developed in accordance with an earlier qualitative phase of the project and pretested with a diverse group of 16 trans Ontarians to improve clarity. ED avoidance caused by trans status was defined as having ever avoided accessing an ED when care was needed because of the perception that an ED encounter would be negatively influenced by one's trans status. ED use while presenting in one's felt gender was also measured over a lifetime timeframe. Self-reported need for and self-reported ability to obtain emergency services were assessed for the past year for all participants, regardless of transition status.

Methods of Measurement

Sociodemographic characteristics were self-reported. Gender spectrum was coded as either female-to-male or male-to-female spectra based on indication of birth sex and current gender identity. Note that not all transgender persons identify with 1 polar gender and that gender identities may be highly individualized and can vary over time. Participants who identified only with gender identity terms outside the male-female binary (eg, genderqueer, gender fluid, two-spirit, or bigender) were included in gender spectra according to their birth sex. Ethnoracial group was coded from multiple variables, with First Nations, Métis, and Inuit participants coded as Aboriginal; the remainder were coded as white or racialized (people of color[13]) according to categories indicated on a check-all-that-apply list. Region of province was coded according to standard regions, as indicated by first letter of each participant's home postal code.

Completed medical transition status was based on participant statement and could involve various combinations of hormones

or surgeries. Participants were asked to report if they had undergone any of a specified list of surgical procedures.

A questionnaire item was developed, based on qualitative data from an earlier study phase, on which participants indicated specific types of negative experiences with providers. A summary variable indicating any trans-specific negative ED experience was coded to indicate history of any of the listed experiences. Participants also indicated the extent to which they believed they had to educate ED providers about their needs as a trans person. Participants were asked to complete these items only if they had sought ED care while presenting in their felt gender.

Primary Data Analysis

Estimates of the maximum number of waves needed to reach equilibrium, under the conservative condition of completely biased seeds (if all seeds had been from a single subgroup for a particular variable) were calculated for each ED-specific variable, using Respondent-Driven Sampling Analysis Tool (version 6.0.1) software.[14] Proportions and associated 95% confidence intervals (CIs) were estimated with the tool, with proportions weighted according to the probability of recruitment—using data on both personal network size and differential recruitment across groups—to represent population estimates rather than sample proportions[9,10]; 95% CIs were estimated with a modified bootstrapping approach,[15] with 10,000 resamples through recruitment chains using an enhanced data smoothing algorithm. Accounting for the networked data structure, statistical significance of differences between proportions was assessed with the method of variance estimates recovery[16] to generate CIs around differences between proportions. Where CIs around the difference in proportions excluded 0, differences were found to be statistically significant at $P<.05$. Visually, statistical significance corresponds to a maximum overlap between 2 CIs such that a confidence limit for the first statistic extends no farther into the second CI than the midpoint between the limit and the test statistic.[17]

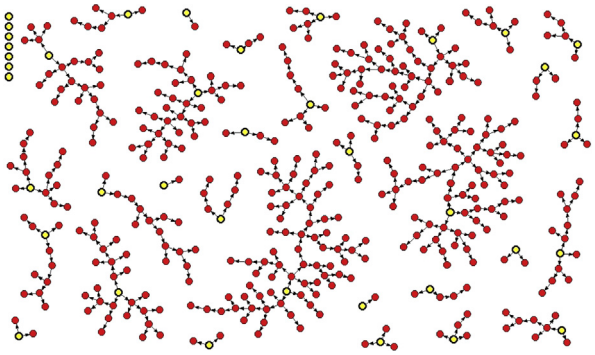

Figure. Network structure for sample of 433 trans persons in Ontario, Canada. Diagram represents the recruitment structure of the sample. Yellow=seeds (initial participants, or wave 0). Red=peers recruited in successive waves. The recruitment quota was a maximum of 3 additional recruits per participant. The maximum recruitment chain length achieved was 10 waves, excluding seeds.

RESULTS

Participants had a median network size of 8. Sampling progressed for a total of 10 waves beyond the original participants, or seeds. A diagram of the recruitment network structure is presented in the Figure. The number of waves required to reach equilibrium, and thus to ensure that the sample was independent of the characteristics of the seeds, ranged from 1 to 4 for ED measures (results not shown).

Of 433 participants, 408 (94%) completed the Emergency Care section of the survey and were included in the analysis. Only those who had ever used the ED while presenting in their felt gender were included in estimates of specific ED experiences; 167, or an estimated 33% (95% CI 25% to 41%) of trans Ontarians had done so.

Characteristics of trans Ontarians who completed the ED portion of the survey, of trans Ontarians who had ever used the ED while presenting in their felt gender, and of those who had never accessed the ED in their felt gender are presented in Table 1. Trans people were young overall, with 34% (95% CI 25% to 43%) in the 16- to 24-year age group and only 10% (95% CI 4% to 13%) in the aged 55 years and older group. About half (53%; 95% CI 46% to 64%) were female-to-male and half (47%; 95% CI 36% to 54%) male-to-female. With regard to transition status, 47% (95% CI 39% to 56%) were living full time in their felt gender, 37% (95% CI 30% to 46%) reported using medically supervised hormone therapy, and 27% (95% CI 20% to 35%) reported at least 1 transition-related surgery; 7% (95% CI 3% to 12%) indicated having genital reassignment surgery (vaginoplasty, phalloplasty, or metoidioplasty).

Patients reporting having ever used the ED while presenting in their felt gender differed from those who did not. Female-to-male persons composed 64% (95% CI 53% to 80%) of trans persons using the ED in their felt gender versus 47% (95% CI 39% to 60%) of those who did not. Trans ED users were statistically significantly more likely than nonusers to be aged 35 to 54 years and less likely to be aged 55 years or older. Trans ED users were also significantly more likely to live in Northern Ontario, as are Ontario ED users overall.[18] Trans ED users differed from nonusers with regard to transition-related variables (social transition status, medical transition status, hormone use, and surgeries). We estimated that the majority of trans people who had used the ED in their felt gender were currently receiving hormones under medical supervision (60%; 95% CI 44% to 75%), but less than half reported any transition-related surgery (42%; 95% CI 30% to 59%), and only 9% (95% CI 4% to 19%) had undergone genital surgery.

Details of ED use, need, ability to obtain service, and avoidance are presented in Table 2 for all trans Ontarians and for female-to-male and male-to-female persons. Past-year self-reported ED need (among all trans Ontarians, regardless of gender presentation) was 33% (95% CI 26% to 40%), with 71% (95% CI 40% to 91%) of this group reporting that they were able to obtain ED services. Twenty-one percent (95% CI 14% to

Table 1. Weighted characteristics of trans persons (n=408) and of those ever using (n=167) and never using (n=241) the ED while presenting in their felt gender in Ontario, Canada.

	Trans Ontarians, n=408		Ever Used ED While Presenting in Felt Gender, n=167		Never Used ED While Presenting in Felt Gender, n=241	
Characteristics	**%**	**95% CI**	**%**	**95% CI**	**%**	**95% CI**
Age, y						
16–24	34	(25–43)	29	(15–42)	37	(26–47)
25–34	29	(23–38)	24	(14–34)	31	(24–44)
35–54	27	(20–37)	45	(32–62)	19	(11–27)
≥55	10	(4–13)	3	(0.1–5)	13	(5–18)
Gender spectrum						
Female-to-male	53	(46–64)	64	(53–80)	47	(39–60)
Male-to-female	47	(36–54)	36	(20–47)	53	(40–61)
Gender identity						
Male or primarily masculine	46	(38–56)	58	(44–73)	39	(31–52)
Female or primarily feminine	35	(26–42)	32	(17–41)	37	(26–44)
Gender fluid or third gender	19	(13–27)	10	(3–26)	24	(16–34)
Ethnoracial group						
Aboriginal	6	(4–11)	7	(2–14)	6	(2–11)
Non-Aboriginal white	78	(71–84)	80	(67–90)	78	(69–85)
Non-Aboriginal racialized	16	(10–22)	13	(5–26)	16	(10–24)
Region of Ontario						
Southeastern Ontario	16	(7–26)	17	(6–32)	14	(6–25)
South central Ontario	16	(10–24)	10	(2–21)	19	(12–30)
Metropolitan Toronto	33	(22–43)	37	(21–54)	31	(19–41)
Southwestern Ontario	27	(16–40)	19	(8–34)	34	(20–47)
Northern Ontario	8	(2–16)	17	(4–34)	2	(0–4)
Born in Canada	82	(74–88)	83	(71–92)	82	(73–89)
Education						
<High school	11	(6–17)	13	(4–17)	11	(6–20)
High school diploma	17	(11–22)	10	(2–18)	21	(12–29)
Some college or university	30	(25–39)	37	(26–54)	26	(19–35)
Postsecondary degree	42	(33–50)	41	(29–55)	42	(31–51)
Have a regular family physician	83	(77–89)	86	(75–94)	82	(75–90)
Social transition status						
Living full time in felt gender	47	(39–56)	78	(64–89)	32	(24–43)
Living part time in felt gender	28	(20–35)	18	(9–33)	33	(23–40)
Not living in felt gender	25	(18–33)	4	(0–10)	35	(26–46)
Medical transition status						
Completed medical transition*	24	(17–33)	45	(32–61)	14	(8–21)
In process	26	(19–32)	28	(14–34)	25	(19–34)
Planning but not begun	27	(21–36)	19	(9–35)	32	(23–40)
Not sure/not planning/not relevant	22	(15–30)	8	(0.6–19)	29	(20–39)
Current hormone use						
Yes, with medical supervision	37	(30–46)	60	(44–75)	26	(21–38)
Yes, without medical supervision	5	(2–8)	3	(0.6–5)	7	(2–11)
No	59	(49–66)	38	(23–53)	67	(56–75)
Any transition-related surgery†	27	(20–35)	42	(30–59)	19	(11–27)
Vaginoplasty, phalloplasty or metoidioplasty	7	(3–12)	9	(4–19)	5	(1–11)

*Completed transition was based on participant self-report and may involve any combination of hormones or surgery/surgeries.
†Transition-related surgeries included the following: orchiectomy, vaginoplasty, hysterectomy, oophorectomy, metoidioplasty, urethroplasty, testicular implants, phalloplasty, breast augmentation, breast reduction, mastectomy/chest reconstruction, facial feminization surgery, vocal cord surgery, tracheal shave, hair transplants.

25%) of trans Ontarians reported ever avoiding the ED when emergency care was needed specifically because of concerns relating to accessing ED care as a trans person. Female-to-male persons were statistically significantly more likely to have accessed the ED in their felt gender than male-to-female persons (39%, 95% CI 28% to 50% versus 25%, 95% CI 14% to 34%); female-to-male persons may be more likely to have ever avoided the ED, but also to have reported needing emergency care in the past year. Both differences approached statistical significance.

Lifetime frequencies for negative trans-related experiences among trans ED users (presenting in their felt gender) are presented in Table 3. More than half of trans ED users (52%; 95% CI 34% to 72%) reported any of the specified negative experiences, most commonly hurtful or insulting language or

Table 2. Weighted frequencies of ED use and avoidance by trans persons (n=408), female-to-male spectrum trans persons (n=214), and male-to-female spectrum trans persons (n=195) in Ontario, Canada.

	Trans Ontarians, n=408		Female-to-Male Spectrum, n=214		Male-to-Female Spectrum, n=195	
Use or Avoidance	**%**	**95% CI**	**%**	**95% CI**	**%**	**95% CI**
Reported ED avoidance, because trans						
Ever avoided	21	(14–25)	25	(17–33)	15	(7–21)
Never avoided	59	(53–68)	60	(51–70)	58	(5–70)
Never needed emergency care	20	(14–27)	15	(9–21)	27	(17–39)
Ever used ED presenting in felt gender	33	(25–41)	39	(28–50)	25	(14–34)
Needed emergency services, past year	33	(26–40)	38	(28–48)	26	(17–37)
Able to access emergency services, past year*	71	(40–91)	–†	–†	–†	–†

*Among those who needed emergency services in the past year.
†Dashes indicate that the sample size is too small to allow estimates to reach equilibrium.

being told the provider did not know enough to provide care. Approximately 54% reported having to educate their providers "some" or "a lot" about trans issues.

LIMITATIONS

Although respondent-driven sampling methodology, where feasible, represents an improvement over convenience samples for surveying hidden populations, external validity is not assured. It has performed well when tested against known populations under rather ideal conditions,[11] but it has also been demonstrated that it is possible for biases to be introduced in sampling that cannot be adjusted for.[19] In our analysis, adjustment was for differential network sizes and recruitment probabilities across groups, which also adjusts for homophily; any bias unrelated to these network characteristics would not be accounted for.

Despite strengths in sampling design, measurement bias remained a concern with regard to measures of ED experience. The validity of these new measures has not been established, other than pretesting for clarity, which represents only a first step in validation. Test-retest reliability is likewise unknown. ED experiences were self-reported past experiences and thus susceptible to recall bias. Also, participants knew they were answering questions that could impact trans health care access, which could introduce response bias.

An additional limitation with regard to survey measures was that the findings presented here represent an analysis that was only one portion of a large-scale trans health study. Given that there was so little research on this population and that data collected had to cover multiple types of health care and multiple health-related issues, the number of measures specific to ED experiences was limited. Thus, some items of interest were not included, such as presenting indication for last ED visit. In addition, although respondents were asked to select reasons for their inability to obtain ED care from a list of options, this was a cumbersome survey item and was not completed by many participants; thus, these data were not available for inclusion in the current analysis. Measures also did not include positive experiences with providers or a full range of negative experiences. As a result, the overall measure may underestimate total negative experiences, and no information is provided to guide improvement in care other than avoidance of negative actions.

Likewise, trans-specific negative ED experiences were assessed for only those participants who indicated they had used the ED while presenting in their felt gender. It is possible that additional participants were recognizably gender nonconforming as ED patients, though ostensibly presenting in the birth sex or gender. Participants were not asked whether an emergency physician appeared to be aware of their trans status, so the ED user group would include those who were perceived as trans and those who

Table 3. Weighted frequencies for experiences of transgender ED patients* in Ontario, Canada (n=167).

Experience	**%**	**95% CI**
Any specified trans-specific negative ED experiences	52	(34–72)
Specific negative ED experiences†		
Refused or ended care	10	(2–15)
Hurtful or insulting language	32	(15–48)
Refused to discuss trans-related concerns	18	(6–30)
Told that you are not really trans	13	–‡
Discouraged from exploring gender	14	–‡
Told provider does not know enough to provide care	31	(17–53)
Belittled or ridiculed for being trans	24	(10–36)
Thought gender marker on ID was a mistake	27	(14–46)
Refused to examine parts of body	12	(3–21)
Had to educate ED provider about trans		
A lot	28	(18–55)
Some	26	(9–34)
A little	13	(7–24)
No	33	(12–47)

*Trans ED patients were defined to include only those who had used the ED while presenting in their felt gender.
†Participants could indicate more than 1 type of negative experience. Thus, proportions will not sum to 100%.
‡Could not be estimated because of network characteristics.

were perceived as cisgender (non-trans[20]) men or women. Last, because the survey collected information on current transition status with respect to hormone use and surgical history, and transition status can change over time, at least some participants would be expected to have had a different hormonal or surgical status at the ED visit.

DISCUSSION

This study presents the best data available to date describing ED utilization and experiences of trans persons. Where feasible, respondent-driven sampling is appropriate for studying hidden populations, particularly for accessing those who may be avoiding care; in this study, its use allowed greater external validity through the calculation of weighted estimates to represent the Ontario networked trans population. In addition, the survey had a very high completion rate (94%), and its Canadian setting reduces the potential for confounding by socioeconomic status with regard to barriers to ED access for trans persons. In the Ontario context, access to EDs by trans people is likely shaped by the availability of publicly funded primary and emergency care, and perhaps by greater social and legal recognition of trans persons relative to other jurisdictions, both in Canada and internationally. Such recognition includes an array of trans-specific social and medical services, particularly in Ontario's urban regions, and municipal and provincial human rights protections. ED avoidance or negative experiences may be more common among trans persons in regions where they have less social and legal recognition than in Ontario.

ED use among trans Ontarians was low relative to population figures. In Ontario, 31% of adults reported ED use in 2002.[21] In contrast, although 33% of trans persons reported a past-year ED need, only 71% of those who perceived a need for ED care reported that they were able to obtain it. In Ontario, barriers to ED utilization are generally not financial, with no co-payment; ambulance use involves a small co-payment only in certain cases. Long wait times are the most commonly reported barrier to immediate care in Canada, including emergency care.[22] In 2003, 11% of Ontarians reported unmet need for any type of medical care in the past year.[23] Approximately 2% of Canadians reported past-year unmet need for emergency care (for themselves or a family member) in 2001.[24] That 71% of trans Ontarians who reported a need for emergency care in the past year indicated that they were able to obtain it, leaving 29% unable to do so, suggests a burden of unmet need in this population. Although there is no other published trans-specific research about unmet need for ED care, a needs assessment of trans persons in Chicago, IL (n=111), found that 14% reported ever experiencing difficulty accessing ED care because of trans status.[25] Our estimate for past-year reported unmet need was similar, and it is possible that our measure of inability to obtain needed ED care reflected both trans-specific difficulties (ie, avoidance or discrimination) and general population barriers, such as wait times.

Reported lifetime ED avoidance because of trans status was estimated at 21%, which is consistent with non–peer-reviewed US reports showing high frequencies of avoidance or postponement of care across health care settings.[4,5] That 21% of trans Ontarians reported ever avoiding the ED because of trans status suggests that perceptions and previous experiences of trans-related discrimination or poor care may have been significant barriers to access.

Reported ED need in this study did not appear elevated relative to that of the Ontario population because it was equivalent to reported past-year ED use among Ontario adults.[21] This may reflect a combination of factors associated with lower and higher need. Previously published results from the Trans PULSE Project have found that Ontario's trans population had a relatively young age distribution but experienced high levels of poverty, with half reporting an income under CDN $15,000 per year.[12] Low income (controlling for education) has been independently associated with increased risk of ED visits in Ontario.[21] In addition, although trans persons experience the typical range of illnesses and injuries that result in ED visits, there may be additional trans-specific indications related to medical transition that could result in a visit. These could include trans-specific surgical complications, though serious complications are rare.[26,27] Last, our project has documented elevated prevalences of depressive symptomatology[28,29] and suicidality[30] among trans Ontarians. However, data are not available about how often suicide attempts among trans persons are life threatening or how often mental health crises or suicidality results in ED visits.

Characteristics of trans ED users who attended in their felt gender demonstrate the sociodemographic and sex- and gender-related heterogeneity within trans populations. Trans patients do not all report a primary male or female identity. Moreover, trans patients will present with various anatomy and hormonal transition-related treatment, a situation that physicians should anticipate to avoid making assumptions that could potentially lead to delays or inappropriate care. Although 12% of trans ED users reported an ED provider refusing to examine parts of their body because they were trans, cases have also been reported anecdotally of examinations that appear to be driven by physician curiosity rather than diagnostic need. Some patients who appear gender conforming may in fact be trans, whether pretransition, posttransition and fully blending in their felt gender, or because they have chosen to visit the ED in their birth-assigned gender to avoid discrimination.[31] Such patients may nevertheless have trans-related characteristics relevant to medical care and would benefit from trans-sensitive language and approaches.

Although trans Ontarians were approximately evenly split between female-to-male and male-to-female persons,[12] our results suggest that the majority of trans individuals visiting an ED in their felt gender role in Ontario were female to male. This appears to be because male-to-female individuals are less likely to perceive need for ED care rather than because those who are male-to-female are more likely to avoid the ED. It may also be because male-to-female persons are more likely to not be living in their felt gender, even part time, and may present as their birth-assigned gender when attending the ED. Further research is needed to understand gender spectrum differences in emergency or other health care needs among trans persons.

Although our study did not explicitly compare trans Ontarians to the overall Ontario population, in general the population demographics of trans Ontarians were similar to those of the overall Ontario population, with the exceptions that trans persons had a younger age distribution and lower incomes, on average.[12] Only 9% of trans Ontarians and 3% of trans ED users were aged 55 years or older. In addition, fewer male-to-female Ontarians were members of non-Aboriginal racialized groups than female to male Ontarians and the overall population of Ontario (5% versus 25% versus 23%[12,32]), although it appears that a higher proportion of trans Ontarians were Aboriginal compared with nontrans Ontarians (7% versus 2%[12,32]). However, we cannot assume that trans population demographics should mirror those of the broader population because trans persons may not have the same rates of birth, migration, and survival.[12]

The majority of trans ED patients reported having to provide some amount of education to their physicians with regard to trans issues. Although both undergraduate and graduate medical education curricula are generally lacking in trans-specific content,[6] resources are available. Guidelines for trans-inclusivity in clinical settings have been published,[3] and emergency physicians should be aware of the standards of care for transition-related care,[33] protocols for hormonal therapy,[34] and guidelines for emergency nursing care.[35] Additional ED-specific research would be useful in the areas of postoperative complications or conditions complicated by cross-sex hormone therapy. In addition to future study on ED use and access patterns, research on the clinical and cultural competency of emergency physicians in the general care of trans patients may help address the barriers identified in the current study. Emergency physicians tend to be more comfortable with situations for which they have had minimal training than their peers in other specialties. As such, emergency physicians are poised to be on the forefront of enhancing and improving care access and quality for trans patients.

To our knowledge, the current analysis represents a first contribution on trans experiences within emergency medicine, provides novel findings, and generates directions for future study. Data on individual patient visits would be useful in future studies to describe indications for ED use and to assess patient experiences accessing the ED. Moreover, additional population-based trans research is needed to better understand reasons for ED avoidance and to develop strategies to overcome this.

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APPENDIX 1.

Glossary of terms.

Transgender: an umbrella term referring to those with a gender identity or expression that differs from societal norms for those of their birth sex.

Transsexual: a more specific and clinical term referring to those with a gender identity "opposite to" the gender assigned at birth. Some transsexuals may simply identify as transgender or trans.

FTM: a transgender, transsexual, or transitioned person assigned female at birth who identifies as male or masculine.

MTF: a transgender, transsexual, or transitioned person assigned male at birth who identifies as female or feminine.

Genderqueer: a gender identity outside the male-female binary.

Gender fluid: a gender identity on a spectrum between male and female, perhaps changing over time.

Bigender: combined and coexisting male and female identities.

Two-spirit: a term used by North American Native peoples to describe those who identify with both male and female gender roles and expressions.

Cisgender: nontransgender; refers to those whose gender identity is aligned with their birth sex.

APPENDIX 2.

Partners in Trans PULSE included the Sherbourne Health Centre (Toronto), The 519 Church Street Community Centre (Toronto), The University of Western Ontario (London), Wilfrid Laurier University (Waterloo), and Rainbow Health Ontario. The Trans PULSE Steering Committee members were Greta Bauer, Robb Travers, Rebecca Hammond, Anjali K, Matthias Kaay, Jake Pyne, Nik Redman, Kyle Scanlon (deceased), and Anna Travers.

APPENDIX E1.

Emergency care sections of Trans PULSE questionnaire.

C4. For each type of service listed in column 1, please indicate if you have needed the service in the past 12 months. If you did not need it, please go on to the next line (ie, next service).

If you check yes for any service(s) in column 2, please indicate whether you were able to obtain this service in column 3.

Column 1	Column 2	Column 3
Service	In the past 12 mo, have you needed this service?	If yes, were you able to obtain this service?
Emergency services	☐ Yes → ☐ No	☐ Yes ☐ No →

D: EMERGENCY CARE

D1. Have you ever avoided going to the ED when you needed care because you are trans?
- ❑ Yes
- ❑ No
- ❑ I have never needed emergency care

D2. Have you ever used ED services presenting in your felt gender?
- ❑ Yes
- ❑ No (skip to section E)

D3. For each of the following, has an emergency care provider ever…? (Please check all that apply)
- ❑ Refused to see you or ended care because you were trans
- ❑ Used hurtful or insulting language about trans identity or experience
- ❑ Refused to discuss or address trans-related health concerns
- ❑ Told you that you were not really trans
- ❑ Discouraged you from exploring your gender
- ❑ Told you they do not know enough about trans-related care to provide it
- ❑ Belittled or ridiculed you for being trans
- ❑ Thought the gender listed on your ID or forms was a mistake
- ❑ Refused to examine parts of your body because you're trans
- ❑ None of the above

D4. Have you ever had to educate an emergency care provider about your needs as a trans person?
- ❑ Yes, provided a lot of education
- ❑ Yes, provided some education
- ❑ Yes, provided a little education
- ❑ No